

IN THE CLAIMS

Please amend the claims as follows:

1-9. canceled

10. (currently amended) An optical network interface comprising:

an optical component having

an optical interface adapted to connect to an optical device capable of transmitting and receiving optical signals;

a detector array, coupled to said optical interface, for translating optical signals received from said optical interface to corresponding differential electrical signals in the form of a serial data stream; and

a vertical cavity surface emitting laser (VCSEL) array, coupled to said optical interface, for translating electrical signals to corresponding optical signals to be transmitted to said optical interface; and

an electrical component having

a decoder array, coupled to said detector array, for converting said serial data stream to a corresponding set of parallel data and an encoder array;

a receive router coupled to said decoder array and a send router;

a plurality of receive buffers, coupled to said receive router, wherein said parallel data is directed to one of said receive buffers by said receive router; array and

a plurality of send buffers array; and

an electrical interface adapted to connect to an electrical device capable of transmitting and receiving electrical signals, wherein said electrical interface receives parallel data from said one receiver buffer and sends said parallel data to said electrical device, wherein said electrical interface also directs parallel data received from said electrical device to one of said send buffers;

a send router, coupled to said send buffers, for routing said parallel data received from said electrical device; and

a plurality of encoders, coupled to said router, wherein one of said encoders receives parallel data received from said electrical device and converts said parallel data received from said electrical device to a second serial data stream to be sent to one of said VCSELs as differential electrical signals.

11. (currently amended) The optical network interface of Claim 10, wherein said optical component and said electrical component are connected to each other via bump bonding.

12. (new) The optical network interface of Claim 10, wherein said decoder removes 8B/10B encoding from parallel data.

13. (new) The optical network interface of Claim 10, wherein said encoder encodes parallel data received from said one receiver buffer as an 8B/10B structure.